



EC TYPE EXAMINATION (MODULE B) CERTIFICATE

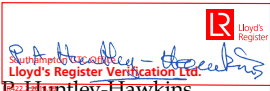
This is to certify that:

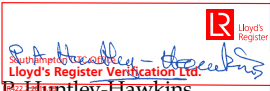
LLOYD'S REGISTER VERIFICATION LIMITED (LRV), designated as a "notified body" under the terms of the Merchant Shipping (Marine Equipment) Regulations 2016 (S.I. 2016 No. 1025) did undertake the relevant type approval procedures for the equipment identified below which was found to be in compliance with the essential Navigation equipment requirements of Marine Equipment Directive (MED) 2014/90/EU and Commission Implementing Regulation (EU) 2018/773 indicating design, construction and performance requirements and testing standards for marine equipment, subject to any conditions in the Design Appraisal Document attached hereto.

Manufacturer (Applicant)	Northrop Grumman Sperry Marine BV
Address	118 Burlington Road New Malden Surrey, KT3 4NR United Kingdom (UK)
Reference Regulation Item (No & Item designation)	Regulation (EU) 2018/773 MED/4.35 Radar equipment CAT 2 MED 4.37 RADAR EQUIPMENT FOR HIGH SPEED CRAFT APPLICATIONS (CAT 1H and CAT 2H) MED 4.38(b) RADAR EQUIPMENT APPROVED WITH A CHART OPTION, NAMELY: (B) CAT 2C MED 4.38(d) RADAR EQUIPMENT APPROVED WITH A CHART OPTION, NAMELY: (D) CAT 2HC FOR HSC
USCG Category Number	165.116 - in Relation to MED/4.35 165.216 - in Relation to MED/4.37 165.217 - in Relation to MED/4.37
Product Type	System types known and designated as:- a) VisionMaster FT, ECAT2 25, - Client/Server Radar Systems b) VisionMaster FT, ECAT2C 25, - Client/Server Chart Radar Systems c) VisionMaster FT, ECAT2H 25, - Client/Server Radar Systems d) VisionMaster FT, ECAT2HC 25, - Client/Server Chart Radar Systems Hardware component parts of the equipment above are listed in the attached design appraisal document. Software version: - 11.0.0
Product Description	Shipborne Radar Equipment (IEC 62388 Category 2 & 2C) Radar Equipment for High Speed Craft applications (IEC 62388 Category 2H & 2HC)
Specified Standard	IMO Resolutions: A278(VIII), A694(17), MSC191(79), MSC192(79), MSC.302(87), MSC.36 (63) - 13, MSC.97 (73) - 13, MSC.1/Circ.1349 and ITU-R M.1177-4 (04/11) IEC 60945 (2002) incl. IEC 60945 Corr. 1 (2008) IEC 61162 -1 Ed5.0 (2016), IEC61162-2 Ed1.0 (1998) and IEC61162-450 (2011) IEC 62288 Ed. 2.0 (2014-07) IEC 62388 Ed. 2.0 (2013)

The attached Design Appraisal Document (schedule) forms part of this certificate.

This certificate remains valid unless cancelled or revoked, provided the conditions in the attached schedule are complied with and the equipment remains satisfactory in service.

Date of issue	12 June 2019	Expiry date	24 April 2024
Certificate No.	MED 1900004/M2	Signed	
Sheet No	1 of 5	Name	P. Huntley-Hawkins



For and on behalf of Lloyd's Register Verification
LRV EC Distinguishing No. 0038

Note:

This certificate is issued under the authority of the MCA.

This certificate is not valid for equipment; the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify the notified body named on this certificate of any modification or changes to the equipment in order to obtain a valid Certificate.

This equipment is covered by the scope of the "Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment signed February 27th, 2004 and amended by Decision No.1/2018 dated February 18th, 2019 according to U.S. Coast Guard approval category USCG Module B number: 165.116/EC0038, 165.216/EC0038 & 165.217/EC0038.

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production Module certificate (Module D, E or F)

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DESIGN APPRAISAL DOCUMENT

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ATTACHMENT TO EC TYPE EXAMINATION (MODULE B) CERTIFICATE No. MED 1900004/M2

The undernoted documents have been appraised for compliance with the relevant requirements of International Conventions and European Union legislation for the EC Type Examination of Marine Equipment for use on Merchant Ships Registered in the European Economic Area.

This Design Appraisal Document (schedule) forms part of the Certificate.

This Certificate is an amendment of Certificate No. MED 1900004/M1.

HARDWARE DETAILS

Schedule 1 - Type numbers of processor and display unit.

Processor - 65901AS (Radar Server), 65901AC (Radar Client)

Display - 65817G

PCIO Interface Unit - 65900AA or 65900AB

Control Panel - 65903KH

Network Switch - RA00009746

Security Device - 32SDR005 or 32SDT005

NOTES

1. The 32SDR005 or 32SDT005 Multi-node security device allows operation of an integrated multi display ships bridge. A security string defines the product type on all the nodes for a particular vessel's bridge operating plan. The product type must be set to CAT1 Radar, CAT1C Chart Radar or Total Watch as appropriate.
2. A Total Watch product enables operation as a Multi-function workstation and allows the operator to switch between Chart Radar, ECDIS and conning display. This certificate only applies when the mode is set to Chart Radar for a Total Watch system.
3. This approval remains valid for Minor software amendments, as allowed by the 11.0.x numeric format, where written details of the modifications have been submitted to and accepted by the Notified Body.
4. Image Transfer to a Voyage Data Recorder via IEC 61162-450 Interface

Schedule 2 - Type numbers of transceivers, turning units and antennae.

10kW X-Band Transceivers and Turning Units - 65910*AR, 65910*AT, 65910*AU, where * can be M,N,P,T or W.

25kW X-Band Transceivers and Turning Units - 65925*AR, 65925*AT, 65925*AU, where * can be M,N,P,T or W.

10kW X-Band Transceivers (Bulkhead) - 65810E, 65810F, 65810G, 65810H and 65810L

25kW X-Band Transceivers (Bulkhead) - 65825E, 65825F, 65825G, 65825H and 65825L

X-Band Turning Unit (Bulkhead)- 65901BAR, 65901CAR, 65901CAT or 65901CAU

X-Band Antennae - 65604A, 65606A or 65608A

S-Band Transceivers - 65830M*R, 65830N*R, 65830N*T or 65830N*U, where * can be E,F,G,H,J,K,L,M,P,Q,R or S

S-Band Transceivers (Bulkhead) - 65831A or 65831B

S-Band Turning Unit - 65830B*R, 65830C*R, 65830C*T or 65830C*U where * can be E,F,G,H,J,K,L,M,P,Q,R or S

Scanner Control Unit - 65837AB, 65837AC, 65837AE, 65837AF or 65837AH

S-Band Antennae - 65612A

Schedule 3 - Ancillary Units

Network Serial Interface - 4802181

Mains Distribution Unit - 65900685

Kit Format Units - 65900614, 65900615, 65900668, 65900635 and 65900625

Secure Maritime Gateway - 67050FA



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ATTACHMENT TO EC TYPE EXAMINATION (MODULE B) CERTIFICATE No. MED 1900004/M2

APPROVAL DOCUMENTATION

QINETIQ/D&TS/SES/TC0703744	30/03/2007
QINETIQ/MS/EES/TC1001181	26/03/2010
Change Note 65612/124	07/02/2012
Change Note 65801/077	06/03/2012
Change Note 65920/027	30/05/2013
Change Note 65901/115	04/11/2013
Change Note JLR037 Issue 1	28/10/2016
Change Note JLR039 (SC4 EEPROM) Issue 2	14/03/2017
Change Note JLR042	15/06/2017
Change Note JLR045 (VisionMaster 340 Pedestal Console)	02/01/2018
VisionMaster Technical File	10/06/2015
VMFT V.7.0 Impact Assessment + Results	18/02/2015
VMFT V8.0 Impact Assessment + Results	15/04/2016
IA-V10-NML-008 (Impact Assessment VMFT 10.0.0)	18/09/2017
IA-V10.0.1-NML-009 (VMFT V10.0.1 Impact Assessment)	13/02/2018
GA-V11-NML-002 (Gap Analysis IEC 61162-1 Ed. 4 to Ed. 5)	18/10/2017
IA-V11-NML-011 (Impact Assessment VMFT V11.0.0)	11/12/2018
Radar/Chart Radar User Guide, 65900010-14 Rev. C	-
VisionMaster Ships Manual 65900011V1-18 Rev A	-
VisionMaster Ships Manual 65900011V2-18 Rev A	-

TEST REPORTS

DNV 2005-3112	14/03/2005
ECDIS Monitor, LCD, Test Procedure and Report	13/04/2005
DANAK-198181	23/12/2005
DANAK-198236	20/01/2006
JA 340-8596-4	16/03/2006
JA 340-8596-2	08/05/2006
JA 340-8596-1	14/07/2006
MET EMC19618-EN60945	28/08/2006
TL1016	30/10/2006
QINETIQ/D&TS/SS/CR0607592/1.0	06/12/2006
Sperry Marine Report 5000657	28/06/2007
BSH 46162/0040380/07	12/09/2007
DANAK-198899 Revision 2	10/12/2007
QINETIQ/EMEA/iX/CR070194/Issue 1.0	20/12/2007
QINETIQ/EMEA/iX/CR0802757/Issue 1.1	19/02/2008
DNV 2008-3143	11/03/2008
QINETIQ/MS/EES/TSTR0801152/1.1	08/07/2008
DANAK-1910255	18/08/2008
QINETIQ/MS/EES/TSTR0801808/1	29/08/2008
QINETIQ/MS/EES/TSTR0801840/1	02/09/2008
QinetiQ/MS/EES/TC0802918	17/10/2008
TL1316	29/06/2009
QINETIQ/MS/EES/TC0905317	14/12/2009
QINETIQ/MS/EES/TSTR0903808/3.0	14/12/2009
QINETIQ/MS/EES/TSTR0904084/3	15/12/2009



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DANAK-1910681 Revision B	25/01/2010
QINETIQ/TEG/TECS/TSTR1000030	19/08/2010
TUV 75909781 Report 02 Issue 1	24/08/2010
QINETIQ/TEG/TECS/TSTR1000308	22/10/2010
QINETIQ/TEG/TECS/CR1100320	14/03/2011
DANAK 1912564	02/11/2012
TUV 7590230 Report 01 Issue 1	22/11/2012
TUV 75919870 Report 04 Issue 1	April 2013
TUV 75921754 Report 01 Issue 1	April 2013
TUV 75924948 Report 01 Issue 1	January 2014
SP5P05969-1	30/10/2015
DNV 2013-308	03/04/2013
VisionMaster FT Release 10.0.0 Client Server Radar Performance Test Report, Issue 1	29/08/2017
VisionMaster FT Release 10.0.0 System Performance Test Report	04/09/2017
TR-V10-NML-004 (IEC 62288-2014 Test Report), Issue 2	18/09/2017
TR-V10-NML-005 (IEC 62388-2013 Test Report), Issue 2	18/09/2017
TR-V10.0.1-NML-010 (IEC 62288 - 2014 Test Report)	12/02/2018
TR-V10.0.1-NML-011 (MSC.302(87) Test Report)	12/02/2018
TR-V10 0 1-NML-012 (System Performance Test) Issue 2	16/02/2018
TR-V11-NML-015 (IEC 61162-1 - 2016 Test Report)	12/11/2018
TR-V11-NML-017 (IEC 62288 - 2014 Test Report)	12/11/2018
TR-V11-NML-018 (IEC 62388 - 2013 Test Report)	12/11/2018
TR-V11-NML-019 (System Performance Test)	12/11/2018
103230862LHD-001 (Intertek Environmental Test Report)	06/12/2017
103230862LHD-001 ISS 4 (Intertek EMC Test Report)	02/01/2018
416.095.1 (kmf_suv_magicnetgwr)	17/06/2016
416.095.2 (kmf_klima_magicnetgwr)	11/05/2016
416.095.3 (emc_nomatronics_magicnetgwr)	18/05/2016
962 (CSD_MagicNet)	08/03/2017

CONDITIONS OF CERTIFICATION

1. Production items of the subject equipment are to be manufactured in accordance with either an approved Production Quality Assurance system (Module D), a Product-Quality assurance system (Module E) or a Product Verification Process (Module F). The wheelmark cannot be affixed to the product until a conformity assessment module is in place
2. Each item, batch or lot of the equipment is to be issued with a "Declaration of Conformity" and have the "Mark of Conformity" affixed after a conformity assessment module is in place

SOFTWARE VERSIONS

11.0.0

STANDARDS NOT APPLICABLE

The following MED specified standards do not apply to this product:

IEC 61162-3 ed1.2 Consol. with am1 ed. 1.0 (2010-11) and am2 ed. 1.0 (2014-07)

IEC 61162-460 ed1.0 (2015-08)



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PLACE OF PRODUCTION

Northrop Grumman Sperry Marine B.V.
118 Burlington Road,
New Malden
Surrey
KT3 4NR
United Kingdom (UK)



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